Beyond Sourcing and Supply Chain: Commodity Management Solution Fundamentals

Understanding Approaches for Pursuing the Most Volatile, Critical and [Often] Largest Component of Company Spend

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A Changing Context: Margins, Uncertainty and Control

Spend Matters headquarters is located in a somewhat diverse section (mix of residential, commercial and retail space) of downtown Chicago. After work hours and even during the day, bankers, lawyers, students, teachers and traders mingle at the pubs, coffee shops and restaurants. One day, a few members of our team were coming back from lunch when they caught the eye of an old colleague walking towards us. This gentleman, a former floor trader, had made the transition to running sales for an agricultural business whose main interest was sugar. He told us in no uncertain terms that business was good as their entire volume was committed for the next year and he was taking “larger” orders from competing food companies for later in 2012 and 2013.

That the basic availability for commodities as stable as sugar is even a question is a clear indicator that times have changed. Sugar, which traded for more in 1982 than in parts of 2008, and with its price increasing by nearly 300% from 2008 to 2011, now requires longer-term contracts to secure specific capacity. This is representative of the risk that basic commodities and ingredients are now causing large food, CPG and other manufacturers. What was once a largely stable world with minimal volatility has become an environment dominated by uncertainty for a wide-ranging set of reasons. Moreover, spectacular, news-grabbing headlines that highlight disruptions and price increases owing to weather-related and other supply issues (e.g. cotton in 2010 and 2011) have completely shifted the dynamics of not only Commodity Management, but broader procurement, sourcing and supply chain management activities.

Procurement executives who previously ran programs driving indirect and services procurement spend category cost savings, and direct programs to identify, qualify and implement global suppliers, now find themselves scrambling to renegotiate with suppliers who will no longer honor contract pricing terms. Yet placing the blame on a single area is difficult. As we’ve observed before on Spend Matters, this rather dangerous commodity concoction is not made from a unique ingredient. A number of factors have contributed to volatility and rising commodity price pressure, including:

- Seasonal supply shortages (e.g. poor staple/food harvests in the spring/summer)
- Traditional speculation (e.g. precious/semi-precious metals)
- New forms of speculation (e.g. ETFs)
- Global emerging market demand (e.g. China)
- Demand and order uncertainty
- Trade concerns and capacity limitations in certain supply markets
- China activities (e.g. VAT rebate changes, export tariffs), WTO rulings, etc.
- Natural disasters (e.g. hurricanes, tsunamis, earthquakes, flooding)
- Man-man disruptions (e.g. port shutdowns -- labor unrest, Occupy Wall Street protests)
- Political and military upheaval and uncertainty in North Africa, the Middle East and Iran, etc.
Besides the numerous factors impacting the supply side of the commodity equation, the demand side is causing, arguably, a different type of persistent headache, a giant shift where there is no looking back. It is impossible to escape the structural shifts caused by a booming global population and the rise of the middle class across countless emerging markets, which creates a new consumer class that is putting greater and greater demand on supply chains. According to World Bank data, the global population was roughly 3 billion in 1960. Today, it is over 7 billion, and based on the UN high estimate, by 2100, the Earth will pass 14 billion humans. To put this in context, in 1800, the global population was under 1 billion.

Simple population growth alone puts tremendous pressure on global supply chains and the inputs they must consume. Demand for the agricultural inputs required to feed animals, not to mention the energy needed to transport commodities from farm to a retail environment, is increasing at a consistent rate. Moreover, as governments look to stretch limited global resources such as oil and natural gas reserves through policy decisions, we have observed new groups competing for precious natural resources. For example, biofuels have in no small part driven the overall demand – at least past a certain tipping point – for various commodities including corn. Brazilian sugar yield and exports have been impacted by government policies (e.g., ethanol) as well as an aging crop base and adverse weather. And India recently took the step to ban all exports of cotton, a significant and market-changing move from the world’s second largest producer.

**Competing Priorities, Delayed Reactions and Commodity Hot Potatoes**

Despite unprecedented price pressure and volatility, even advanced procurement and supply chain organizations often put commodity volatility on the investment back burner in comparison to other areas. Spend Matters has observed increasing buying levels almost universally across industries at double-digit growth levels for purchase-to-pay (P2P) investments, strategic sourcing and unit cost reduction technology investments, supplier risk management tools and collaborative forecasting, scheduling and planning solutions, just to name a select few.

In short, precious investments in technology solutions and skilled resources have largely gone toward other areas of the business rather than being allocated towards efforts to control, mitigate and manage commodity risk. Even though for certain industries Commodity Management volatility has been the number one driver of P&L performance, the art and science of managing it has largely been left to antiquated spreadsheets. Moreover, ERP has played virtually no role in helping the Commodity Management cause, as SAP, Oracle and PeopleSoft systems historically have not been able to address concepts such as market prices, market curves and related accounting, planning and scheduling requirements that bridge financials, physicals and suppliers.

Beyond the systems and people levels, another major challenge hindering the rise of effective Commodity Management has been varying degrees of oversight, governance and stewardship. While there is consistency, for example, as to what procurement and supply chain functions focus on independently and collectively inside companies (i.e. their charter and responsibilities), Commodity Management is different. Reactions to the need for greater Commodity Management oversight and orchestration range dramatically.

Some organizations have turned away entirely from the challenge, ignoring the issue. Others have embraced the pursuit of commodity risk management, building trading functions with dedicated individuals that report into either finance, operations or procurement. Moreover, companies have adopted wide-ranging general policies as well. Some continue to pursue a “no hedge” policy while a handful of others take the other extreme, becoming speculators in given markets. Most companies fall somewhere in the middle with varying degrees of effort and a general lack of central coordination and visibility.

The failure to effectively link demand forecasts with material cost components results in either too much commodity hedging, which is a waste of money, or too little, which results in higher risk and earnings uncertainty.

Of course, the larger tragedy on the corporate buying stage is the overall P&L risk to which companies have been exposed due to a lack of a defined strategy and consistently monitored programs. The impact of commodity price fluctuations on actual P&Ls can be massive, with organizations observing radical fluctuations in prices (30-40%) versus more typical in-band movements (5-10%) annually.
This is not a problem likely to go away anytime soon. If we consider the continued development of emerging economies driven by rising populations, increased demand pressures will likely continue to strain – and even break – commodity supply chains. And if we add an increase in debate around global trade and the willingness of countries like India and China to place restrictions on the exports of various commodities, it is likely volatility and price pressure will continue to rise as well.

Within this context, Spend Matters expects a Dickensian environment for corporate procurement and supply chain organizations tasked with managing commodity price pressure and exposure: “It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair.”

Such a statement rings true in the context of sourcing and price exposure, owning to vastly differing levels of sophistication among corporations when it comes to active engagement in Commodity Management on a broad scale. For those caught on the side of lesser preparedness, the sum of these fundamental shifts will lead to reduced outcomes. And the organizations that find themselves heading into the middling ground between Commodity Management excellence and unpreparedness are likely to find themselves caught in an environment where the winners continue to pull away and status quo activity and behavior creates declining returns and higher risk profiles.

Now is the time for organizations to make the right set of investments in Commodity Management. A slow period of recovery in the US and European Community, currency challenges (including a potential for a 2013 recession), and Asian uncertainty (e.g. a lower manufacturing PMI in China in recent months) have provided just enough cover for companies that haven’t implemented the right set of infrastructure and investments. Moreover, weather appears to be cooperating, at least for those outside of the high technology manufacturing sector impacted by recent crises, playing a lesser role in agricultural volatility than it has in recent years.

Some companies may do nothing, thinking that commodity risk hasn’t really been a problem for them to-date, so why bother spending all the time, money and effort? This is a very dangerous path to take, and shows a fundamental lack of understanding about the potential magnitude and impact of commodity-related risk. When a market shift catches them by surprise and they are forced to report a significant loss to their shareholders, these companies will surely change their tune.

Building the business case for investment in Commodity Management is a relatively straightforward and largely quantifiable exercise. Starting with modeling the impact of commodity volatility and rising prices with at-risk P&L exposure, organizations can begin to understand that smaller upfront investments required across processes, platforms and talent might just have transformational impacts on reducing risk. Moreover, as companies begin to consider their broader exposure to supply chain risk on a country-specific level including currency- and commodity-related volatility, the case for Commodity Management often becomes even stronger.

Hard data aside, it’s likely those in procurement and supply chain will have strong supporters in the C-suite for such programs. After all, the critical impact of commodities on operating earnings is a recurring theme in CFO and CEO discussions during quarterly earnings calls in the food and beverage markets, and more recently in CPG and manufacturing companies.

Beyond Sourcing and Supply Chain Management: A Commodity Management Case Study

A large, global CPG company faced significant price volatility across a range of underlying agricultural, energy and related commodities. With roughly 3.5 billion euro in annual commodity spend, even small price fluctuations in underlying commodities could have a significant impact on earnings. To mitigate the impact of underlying commodity volatility on its business, the organization embarked on building a Commodity Management function with a very close working relationship between finance, procurement and supply chain. This collective group would discuss issues ranging from company and divisional strategy through to covered and uncovered positions. To refine and execute its Commodity Management function, the company chose to work with Commodity Management software provider Triple Point Technology.
Before working with Triple Point, the small Commodity Management group was not able to provide transparency into its open and covered positions at the speed at which the business required. Installing the right platform ultimately created levels of visibility that not only provided better lines of communication across the business, but also allowed the general expansion of Commodity Management programs within the organization, including the use of financial hedging tools for the first time (as opposed to hedging using just physical positions).

The idea behind taking a platform-driven approach to Commodity Management was to create full transparency across commodities. Procurement, supply chain and finance required full visibility, at any moment of the day, into overall positions and covered versus exposed commodity risk. And they needed full integration into their backend SAP system to ensure visibility and mapping between financial and physical positions as well as production systems and scheduling.

Previously the organization understood its physical volume, but there was a disconnect in terms of financials and commodity risk management. In short, the organization “knew its volumes” but there was no automatic calculation that said, “you have bought that volume, that is so many millions, and if you had to buy that volume today against that same period you would pay X.” Moreover, the company “could not see its financial position in commodities over a certain period and then compare it with the market.”

Operating in the volatile climate typical of companies today, the Commodity Management group’s primary charter was to attempt to keep purchase price inflation at zero to avoid “having higher costs than in previous years.” This is critical for a company where many of its consumers find themselves in more challenging economic times and price increases can lead to lost sales. In their words, to “transfer commodity problems to consumers” was not an option.

The decision to invest in a Commodity Management platform was entirely predicated on managing risk and exposure. As this organization told Spend Matters, “by understanding all of our contracts and positions better, we can make better risk management decisions” for the business. However, these decisions have nothing to do with market speculation. This global CPG leader was, in their words, in the business of production, not speculative gain.

This organization shared that they “have [in place] extremely strict rules around over-covering and under-covering positions” and “Triple Point helps us to monitor and enforce these [guidelines].” The technology is inward-facing as much as it monitors contract positions and the overall tools and vehicles the organization uses to cover its physical positions. But it was also always scenario modeling based, for example, on the cost to cover risk exposures given changing market prices for commodities. Under these types of use cases, the Commodity Management function uses the system to understand the impact of price moves (and hedges) on sales prices, internal transfer prices and general P&L impact based on instant transparency into specific and potential positions.

### Specific Benefits Realized From the Triple Point Deployment

- Very quick strategic decision-making related to positions as a result of having its physical and financial positions visible and transparent in real time at granular or aggregate levels
- The ability to show sourcing performance relative to the market
- The capability to explain how the organization is doing to external partners (e.g. working with retailers to provide transparency in those markets that have the highest levels of price pressure and volatility)
- Better overall sourcing decisions that positively impact P&L, including what needs to be covered, due to greater coordination across all functions in the sourcing lifecycle
- The ability to better manage overall margins due to complete pricing visibility across the marketing and sales functions

The company is currently using Triple Point across a number of agricultural commodities including vegetable oils, cereals and sugar as well as transportation, oil and metals including aluminum. The system is used for physical commodity buying in Europe for a range of agricultural commodities and on a global basis for hedging across all key commodity classes (covering futures, swaps and listed options). For physical positions, Triple Point is integrated into SAP. Applications are used and shared across offices in Switzerland, Holland and Singapore.
An Illustration of Commodity Volatility

| Foodstuffs | Beef has seen a slow rise, up 5.57% since October 2011. After a sharp drop in December 2011, cocoa beans are gradually rising but are nowhere near their August 2011 levels. Coffee prices saw a similar drop in October 2011 and continue a slow and steady decline, down 11.94% since late summer of last year. As of January 2012, corn hovers around $282.28/metric ton after a December low of around $254. Oranges took a sharp drop in November 2011 and prices have yet to recover, hovering around $709/metric ton (versus $1.2K in August 2011).

Sugar has lost about 5 cents per pound since August 2011, holding steadily around 24 cents in January 2012. Palm oil is slightly more volatile, with ups and downs since a low of $914.95/metric ton in October 2011 to just over $1,000 currently. Rice has seen a decline of almost forty dollars since November 2011 and has fallen consistently since the beginning of the year. Soybeans and wheat are behaving similarly -- dropping from end-of-summer highs to price declines in December 2011. Both are on slight upticks for January 2012, with soybeans at $511.56 and wheat at $293.58. |

| Energy | As we head into the spring and summer months, crude oil is on somewhat of a drastic rise, from remaining steady in autumn 2011 to a 6.4% increase in January 2012. Aluminum saw a sharp drop at the end of last year and remains 9.65% lower than August 2011 prices, but prices have gone up slowly from December into January 2012. |

To build the right set of core talent to tackle the Commodity Management function, the company looked “outside” for core skill sets because the company did not have an optimal risk talent pool to pull from internally. Globally, the organization sourced talent from other companies in the field with more developed Commodity Management functions. It also tapped resources from trading companies, primarily those focused on agricultural commodities for specialist firms rather than larger banks. To date, 10 of the 70 procurement and supply chain professionals that focus on direct spend areas are now entirely focused on Commodity Management. The organization believes that the addition of a new CPO in recent years “with a strong leadership position reporting directly into the Board of Directors” has been central to enabling an increasingly valuable Commodity Management function.

Integrated Commodity Management: Moving Beyond Excel for Tactical Procurement

The success of broader Commodity Management functions is built as much on a shift in procurement philosophy and mindset at the strategic level as it is on simply moving from an Excel-based paradigm to one with a focused group of risk management professionals using automated platforms to manage exposure and positions. In the current climate, simply measuring to plans and budgets is not sufficient. Procurement and risk management teams must take their role up a level, considering broader success as measured by their performance relative to the broader market and specific competitors.

Winners in the market are realizing that increasing volatility comes not only with risk, but with the ability to outperform competitors. It is these organizations that see Commodity Management as a truly competitive weapon for taking their organization and broader operating performance to the next level relative to others in the market. In this environment, simply measuring performance to a plan does not provide company management and boards with the ability to assess performance or direct investments and strategies. And for this reason alone, Excel and spreadsheets in general are inadequate.

One could argue that spreadsheets are even less suitable for managing commodity positions and risk than for managing sourcing and supply chain planning/collaboration efforts. The fundamental challenge Commodity Management organizations face is that to take advantage of all the available commodity risk management contract options – pun intended – requires a way to gain visibility into and actively manage positions as they relate not only to the size of outside contracts, but also to internal production requirements, schedules and contracts for finished products.
Given the plethora of hedging options available from basic contracts with suppliers that hold, at various costs to the company, the price of futures, options, and swaps contracts for a certain time period, organizations need a means to create a real-time view into all of their positions and current coverage and exposure. But on a more foundational level, they also need this visibility to effectively perform the duties that are expected of their function.

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<th>Some Basic Definitions</th>
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<td><strong>Futures Contract</strong></td>
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<td><strong>Options Contract</strong></td>
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<td><strong>Swap</strong></td>
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Source: Investopedia, duke.com

At foundational requirement levels, organizations need access to their underlying commodity exposure and coverage to build material and total cost models. Such visibility can enable a dynamic view into cost, as well as how individual drivers and underlying elements (e.g. commodities; transportation surcharges) can impact an actual P&L based on changes in the market. Effective Commodity Management can also enable organizations to optimize planning approaches by linking the commodity and financial supply chains with material supply chains. Such visibility can even lead to new strategies, such as demand aggregation across a supply base to reduce volatility and risk.

But on a more basic level, commodity risk management programs allow for the right linkage of the physical and financial worlds for basic accounting, product scheduling, contract and pricing effectiveness. The relationship between effective Commodity Management and financial and operational execution – from accounting properly for hedges to linking, matching and allocating purchase orders and production schedules to underlying positions – cannot be overstated.

In addition, beyond tactical everyday purchasing and accounting execution, effective Commodity Management programs can enhance basic forecasting and general procurement and supply chain visibility. And they also ensure cross-commodity coverage to make sure that even minor ingredients and specific commodities do not end up having a disproportionate impact (in relation to their usage and volume) on broader P&L and contracting exposure. Under most circumstances, the transparency that effective Commodity Management programs afford also makes adjusting to changing plans and greater demand and forecast variability that much easier.

Just as important, effective Commodity Management enables a shared understanding and language, allowing different groups including procurement, supply chain, finance, and risk management/trading to collectively optimize their strategies and goals rather than being driven by individual objectives. For example, Spend Matters recently interviewed a CPO that referenced conflicting agendas within his company to pursue various hedging strategies based on near-term balance sheet impacts (an accounting and CFO concern) and longer-term profits and reduced uncertainty/variability for the broader business. Having current, transparent and complete information can break down barriers to making optimal decisions in a timely manner.

**Commodity Management Platforms – Think Broad, Think Deep**

In selecting the right set of technologies for Commodity Management, it is essential to ensure broad coverage across all commodities and comprehensive functionality that can synchronize the planning and execution of sourcing, hedging and contracting approaches. Moreover, the chosen solutions must enable the continued transparency and optimization of spend across covered and uncovered positions in the context of changing external market conditions, changing demand, scheduling and production requirements and internal constraints. Given these requirements, finding the right set of capabilities is no easy task, especially when it comes to integrating internal back-end systems like SAP into the Commodity Management environment.
Technology must play a key role throughout the planning phase of Commodity Management – often a continuous and evolving process – including the ability to model various cost components on a granular level (e.g. commodity, material, SKU, geography, facility). Such an approach must include capturing all cost elements, from transformation variables (e.g. fuel surcharges) to conversion costs to rebate program impacts. And of course it must do so in a dynamic environment that captures formulas that incorporate changing forecasts, inventories, orders and budgets and real-time data such as financial contracts, freight and conversion costs, discount programs and other associated factors to provide a complete picture into material prices.

The ability to accurately analyze information across commodities to drive related forecasting and scenario analysis – in a continuously adjusted manner, based on the right set of external and internal inputs – is also essential, and should be a foundational component of any commodity risk management tool used by procurement, trading, supply chain and risk professionals. Given the dynamic way market and internal information changes, simply dumping information into an OLAP or BI environment outside of a toolset is not an answer alone (except, perhaps, for periodic reporting purposes). A native analytical environment that allows for monitoring and updating information covering order periods, schedules, volumes, material requirements, cost components and plans is key.

Within a Commodity Management toolset, the ability to enable contract execution is also essential, including the management and recording of financial and physical contracts, inventory, scheduling and logistics. This includes roll-up of underlying requirements at the component, part and ingredient level, including all associated cost components, into a platform that enables visibility and execution based on the right exposures across a range of instruments – futures, options, swaps, etc.

These contracts must be reported on and aligned to changing demands, schedules, and volumes to ensure coverage levels remain accurate. Central to this capability is being able to forecast and adjust coverage levels across all key commodities that are part of a risk management program. Organizations should also include the requirement to capture and visualize contracts, trading information and positions.

The ability to continuously integrate operations and planning information with active material pricing, including index pricing, conversion costs and freight costs based on an underlying system of record, is just as important as the ability to take positions and execute contracts. Whether an organization is using SAP, Oracle, JD Edwards or home-grown systems – or a combination thereof – real-time integration is critical to ensuring the synchronization of Commodity Management programs with changing business dynamics. It is also critical to ensuring compliance with internal policies and government regulations related to accounting (e.g. hedge and non-hedge accounting for commodity positions; treasury/cash forecasting and planning).

There are also other critical technical requirements organizations should look for in a Commodity Management solution that transcend the capabilities of most home-grown solutions that leverage Excel. These include creating and managing contracts, managing credit and counterparty risk, ensuring treasury compliance, recording, managing and executing trades, and the ability to automate alerts and conduct analytical queries that provide an understanding of price movements and changing risk elements.

Preparing for the Commodity and Risk Management Road Ahead

In considering the world of Commodity Management, companies need two types of “platforms” to be successful: corporate and technology. Without the right charter from the top as well as technology platforms that react at the speed of markets and business, Commodity Management programs will fail to deliver on their ultimate objective of enabling competitive advantage relative to peer organizations and market performance.

As companies consider investments in Commodity Management technology, it is critical to think about how they relate to the broader technology environment from ERP to sourcing to supply chain planning and forecasting – not to mention the paradigm shift involved in how Commodity Management tools approach information management. On a summary level, nearly all the major technology investments to-date have been from the bottom to the top – from the material/ingredient level on up. These have included ERP, MRP, category management, planning/forecasting and related investments. One could argue CAD/PLM is different, but we won’t tackle that here because of how it is siloed in the business.
For Commodity Management, the next wave of investments will take an opposite approach. They will focus on individual elements (e.g. ingredients) and manage them “down” in the context of the business, breaking out their cost structures into negotiable and hedge-able elements such as material conversion costs, freight, by-products and discount terms that span SKUS and components, and stretch across facilities, suppliers and counterparties. To enable such an approach, organizations will need actionable detail and insight that is not only granular, but also real-time and current. Information must reflect internal and external markets, and enable visibility across categories where requirements and commonalities might be similar.

While we have outlined a number of recommendations for consideration, Spend Matters believes the following to be the most crucial to success:

- Getting the right charter from an executive team and a CPO that can represent, communicate, and actively participate in a commodity risk management function.
- Setting an overall program charter alignment between functions as well as transparency into current internal and external data.
- Sourcing and hiring the right talent.
- Selecting the right Commodity Management platform that complements and integrates with sourcing, ERP and other technologies.
- Assuring that the chosen system provides coverage across all key commodity groups.
- Permanently bridging, linking and synchronizing the world of financial and physical contracts – and allowing for rapid and even automated course corrections as required.

Now more than ever, procurement organizations across the food, CPG and discrete manufacturing industries should actively consider investment in the right resources and capabilities to tackle Commodity Management, just as many focused earlier procurement efforts on strategic sourcing, purchase-to-pay and related capabilities. Spend Matters recommends that organizations prioritize solution investments in this area as well as fully consider the integration requirements to effectively link back-end ERP/MRP and production systems, physical operations and financial supply chains.